

OIG Performance Report 2006-2007

Goal 1

Promote NSF Efficiency and Effectiveness

1. Identify and implement approaches to improve product quality and timeliness.

- *Analyze the costs and benefits of moving to electronic workpapers; if feasible, conduct pilot testing with the internal audit team.*
- *Develop a statement of work for performance audits conducted by contract auditors at grantee institutions.*
- *Complete most OIG audits within one year of conducting the planning conference.*
- *Complete 75% of all audits carried over from prior year.*
- *Assess results of the annual employee survey and develop appropriate steps to address the highest priority concerns of the audit staff.*
- *Finalize and issue an audit follow-up and resolution policy.*
- *Develop and issue a policy for performing annual and final contract close-out audits.*
- *Link the AIGA and AIGI performance plans to their respective staff performance plans.*
- *Identify workload targets for each audit team.*
- *Review ECIE methods for ensuring the quality and timeliness of investigative products.*
- *Ensure the investigative sufficiency of all cases.*
- *Update Investigations Manual and forms.*

OIG continued to make progress in improving audit timeliness and quality. During this semiannual period, we began a project to assess the benefits of implementing electronic workpapers within the Office of Audit and analyze the cost and functionality of several alternatives. Conversion from

paper to electronic workpapers should increase audit timeliness and quality by facilitating teamwork, reinforcing professional auditing standards and procedures, and attracting staff with strong technical skills. A volunteer team of auditors and IT professionals is currently evaluating and comparing several “off-the-shelf” software packages, as well as other alternatives. We expect to make our recommendation within the next month.

For audits contracted to certified public accounting (CPA) firms we also developed a new statement of work, which emphasizes the evaluation of awardees’ internal controls. This new model should benefit awardee institutions and NSF management by providing proactive assessments of awardees’ capabilities for managing federal funds to prevent problems caused by internal control deficiencies. We plan to use this model for future audits of NSF awardees performed by contractors.

In the past year OIG completed 55 percent of the audits contracted to CPA firms and 56 percent of audits performed by OIG staff within one year and 68 percent of the audits carried over from the prior year. Although the completion rate for carryover audits was less than the target rate of 75 percent, we implemented two initiatives to help the office reach the goal for next year: 1) we reduced the levels of review for low and medium-risk audits, which have minimal or non-material findings, respectively, thus reducing the time to completion; and 2) we developed a tracking process for quarterly workload targets for each audit team in order to more closely link individual and team production to office performance goals.

To address issues raised in the 2006 OIG employee survey, we established an Employee Survey Advisory Group to advise senior audit management. This group recommended ways to improve communications, utilize contractors more effectively, and issue audit reports more efficiently. The Advisory Group will continue to meet at least annually to monitor progress on the implementation of these recommendations.

OIG developed policies to guide staff on their roles and responsibilities for audit resolution and contract closeout audits. The audit resolution policy describes the office’s role in resolving and closing audit findings and helps ensure that both audit resolution and the implementation of audit recommendations are effective and performed in a timely manner. The contract closeout policy clarifies the office’s responsibilities and priorities in responding to a request for assistance from NSF in closing out its contracts.

OIG also made significant strides in improving investigative product quality. This year we:

- Adopted staff suggestions to make significant changes in internal Office of Investigations processes.
- Completed an internal peer review with a team composed of members from each investigative unit.
- Updated our Investigations Manual and forms in response to changes in law, regulation, or practice within the community.
- Continued active supervisory review of milestones to ensure timely case and project completion.
- Implemented an electronic flagging system to alert staff of approaching case-specific milestones.
- Provided advice and assistance to other OIGs in individual peer reviews, as well as suggestions for improving investigative processes, in our role as a coordinator of the ECIE investigative review process.
- Ensured effective quality control and quality assurance on all Investigative Reports and Management Implication Reports.
- Continued to employ a forensic auditing firm to support investigations, enabling us to realize significant improvements in our information analysis, increase recoveries, raise the frequency of agreement by NSF management on recommended actions, and resolve more cases without an increase in the number of investigators.
- Achieved the direct alignment of all individual staff performance plans with the OIG Performance Plan.

2. Strengthen our focus by refining approaches for selecting work and setting priorities.

- *Conduct audit plan brainstorming meeting, document results, and develop appropriate steps to address ideas of audit staff as summarized by the audit planning team.*
- *Develop and execute the annual audit plan.*
- *Develop a catalog of publications for an audit planning library.*

- *Initiate a listing of NSF programs by dollar amount/cost by program.*
- *Perform and document annual risk assessment of NSF's award portfolio.*
- *Document methodology for final selection of audits to be included in the annual audit plan.*
- *Develop a list of investigation risk areas through consultation between the offices of Audit and Investigations.*
- *Identify audit and investigation issues arising from NSF priorities, high-risk programs, and management challenges.*

The Audit office held brainstorming sessions in June 2006 to begin preparation of the FY 2007 Audit Plan. We incorporated ideas from those sessions with risk assessments of NSF awards and awardee institutions, OIG's annual Management Challenges Letter, referrals from Investigations, and NSF's audit requests into the FY 2007 Audit Plan, which we presented to the National Science Board in September 2006. For reference in future audit planning, we also documented the methodologies used in developing the risk assessments and prioritizing audits in the Plan. In addition, this year we developed a hyperlinked audit library of resources and obtained a list of NSF programs by dollar amount. All of these actions strengthen the OIG's capabilities for selecting work and setting priorities.

Staff from the offices of Investigations and Audit met regularly to exchange information, identify common concerns, proactively address possible conflicts and redundancies, and monitor referrals that had been made. These meetings have helped to improve each unit's understanding of the other's work, enhance office-wide sharing and cooperation, and discover ways to use this knowledge in assessing risks and establishing priorities pertaining to their work.

An Investigations team reviewed NSF's last two strategic plans, its budget request, high-risk list, and the Management Challenges letter to identify matters, programs, or awardees warranting investigative scrutiny. This information proved valuable in the development of the Investigative Proactive Review Plan.

Goal 2

Safeguard the Integrity of NSF Programs and Resources

1. Detect and address improper, inappropriate, or illegal activities.

- *Ensure that NSF and grantees adequately respond to OIG investigative findings*
- *Explore the feasibility of implementing a plagiarism software program.*
- *Improve our ability to detect falsified figures in NSF proposals.*
- *Accelerate the research misconduct investigation process.*
- *Develop a mechanism for assessing questionable research practices, questionable financial measures, and questionable management/administrative practices.*

OIG continues to improve its ability to detect and address improper, inappropriate, and illegal activities. We tracked the responsiveness of both NSF and its awardees to OIG recommendations and found that in almost every instance, agency management accepted our factual findings and recommendations. Similarly, we saw affirmative responses to our recommendations throughout the NSF awardee community. Numerous compliance agreements and ethics programs have been initiated or refined as a result of our work.

This year we assessed and updated our investigative tools to take advantage of recent advancements in technology and ensure that the process of conducting research misconduct and civil/criminal investigations is as efficient as possible. We examined various plagiarism software programs and selected one for procurement. We are also assessing programs for detecting falsified figures in proposals. Additionally, our criminal investigators evaluated some newly developed search tools for collecting information about subjects and/or witnesses and compared them to our current system. After considering the results, cost, and ease of operation of each product, we selected a new system.

Our research misconduct investigations rely heavily on the efforts of inquiry and investigation committees at the research universities. In each case, we examine the relevant university report to determine if it meets the requirements laid out in NSF's policies. In cases where the committees' efforts fall short, OIG staff may perform the additional work required to submit the findings to the NSF Deputy Director for adjudication. To reduce the instances of

insufficient university reports, we drafted a plan this year for improving the performance of their committees and for identifying those institutions that fail to correct their conduct in this important area.

In addition, we have developed procedures for assessing and addressing questionable research, financial, and management or administrative practices. When staff professionals encounter these situations, we immediately assess whether the matter warrants a full investigation or is more appropriate for letters of warning.

2. Strengthen OIG proactive activities.

- *Increase the use of financial information data mining and analysis techniques to detect fraud indicators.*
- *Develop a Proactive Review Action Plan to identify systemic weaknesses.*
- *Assess investigative priorities and case trends.*
- *Expand the use of plagiarism software for proactive identification of plagiarism in NSF proposals.*

OIG continues to emphasize the prevention and detection of fraud, waste, and abuse in the course of its proactive review program. During this period, the use of financial information data mining and analysis techniques to detect instances of fraud has become a part of our routine investigative process. We also expanded the process of crafting our Proactive Review Action Plan. Investigators conducted brainstorming sessions with auditors, solicited suggestions regarding vulnerable programs and high-risk institutions from NSF, and polled organizations composed of members of the research community. In addition, we surveyed the IG community to determine if they had practices that might be adopted to improve our proactive reviews of NSF programs and operations. The data obtained will be used to implement the office's proactive review plan for this next performance year. We are assessing investigative priorities and case trends as part of our development of the proactive review plan.

Our proactive review of selected 2005 proposals, using plagiarism software, has been delayed until new software is procured early in the next performance year.

Goal 3

Utilize OIG Resources Effectively and Efficiently

1. Strengthen and utilize the professional expertise and talents of all OIG staff.

- *Conduct annual survey of OIG staff to obtain its views on the effectiveness of*
 - *OIG use of its resources in personnel, equipment, technology and contracting,*
 - *Management planning, policies, and procedures,*
 - *Internal communications and coordination.*
 - *OIG impact on NSF, and*
 - *KMS and other management tools.*
- *Analyze survey results and develop and implement corrective actions for any problems identified.*
- *Make system enhancements to KMS, including development of an administrative support module.*
- *Conduct KMS and other IT training, as necessary.*
- *Update KMS user manuals.*
- *Provide prompt, effective responses to requests for IT support.*
- *Establish a new-employee orientation program.*
- *Update and finalize auditor and management analyst position descriptions.*
- *Develop audit and investigation core competencies.*
- *Develop audit and investigation core training programs.*
- *Complete training identified in Individual Development Plans.*
- *Ensure all investigative staff complete appropriate skill level classes.*
- *Develop an Audit Training Plan.*
- *Develop workload targets in audit staff performance plans.*

The employee survey committee issued its report in April 2006, identifying the primary concerns of OIG staff based on their survey responses. The committee recommended improving trust between supervisors and staff, better accounting by senior managers for all issues that received less than adequate ratings in the survey, and clarification of OIG's telecommuting policy. In response, we made an effort to improve communications between supervisors and staff to help define more clearly and alleviate the issues involving trust. The offices of Audits and Investigations formed advisory committees to help them implement specific actions. Audits established a group to recommend ways to improve internal communications, utilize contractors more effectively, and process audit reports more efficiently. Investigations established a working group to address various concerns raised in the survey and ensure continued positive change. After a review of the telecommuting policy, the OIG leadership decided that the policy was sufficiently clear but that it was not being implemented properly. Supervisors have been encouraged to allow wider use of telecommuting by their staffs and the next survey will test whether employees feel they are given adequate opportunity to telecommute. The 2006 survey showed that problems identified in previous years' surveys, including insufficient cooperation and information sharing among OIG units, have been largely resolved.

Because the most pressing issues identified in the annual employee surveys over the past five years appear to have been addressed, senior management determined that it would be more useful to administer the employee survey every two years so that actions taken in response to the previous surveys would have time to take effect and be more meaningfully assessed.

We continued to make enhancements to the OIG Knowledge Management System (KMS), including the development of modules for administrative support and new employee processing. These modules facilitate 1) management and tracking of personnel actions and inventory, 2) intra-office communications, and 3) human capital planning. In addition, new performance reports allow management and staff to more readily associate individual/group achievements with office-wide goals and plans. We also hired an information technology specialist to provide more prompt and effective responses to requests for IT support. All training planned for the KMS system was successfully completed and user manuals were updated.

This year OIG launched a new initiative to improve the processing and orientation of new employees. Administrative staff interviewed recently-hired employees about their experiences during the first few months of work to identify areas for improvement. To ensure that new hires speedily receive all of the equipment, supplies, information, and resources they need to be effective, checklists of these essential items are now posted on the shared computer drive so that management can track what they have received. Supported by KMS, the new on-line orientation also includes answers to "frequently asked questions" to help new employees more quickly and easily acquire the knowledge and skills they need to perform their jobs.

The Audit office updated all auditor and management analyst position descriptions this year. The new position descriptions incorporate seven core competencies: thinking analytically, applying subject matter knowledge, communicating effectively, evaluating tasks and achieving results, solving problems, working in teams, and making decisions. The position descriptions also include additional competencies, such as managing resources, building consensus, and serving customers, which staff members are expected to develop within one year after entering their positions. Investigations likewise refined the core competencies of its staff.

The Audit office developed core training programs for GS 7-12 positions. The Government Auditing Standards require 80 hours of continuing professional education for auditors every two years. This year OIG has continued to track training hours for each audit staff member and has approved a training plan that will ensure that all audit staff comply with these standards. The development of the new position descriptions and competencies and the monitoring of staff training will strengthen audit staff and ensure that their skills are applied more effectively and efficiently to OIG work.

Investigations also developed a specific core training regimen to ensure that its staff is professionally trained. However, all the training listed in the Individual Development Plans of some staff members could not be completed due to course cancellations, case-related demands, and unanticipated problems with the Inspector General Academy courses. Management, administrative and legal staff also participated in extensive training to maintain their leadership and professional skills through such programs as the Federal Executive Institute, Inspector General Retreats, the Department of Commerce Science and Technology Fellowship Program, the Federally Employed Women's Conference, Senior Executive Service Forums, the Aspen Institute, the NSF Academy, and international workshops. Across all units, OIG remains committed to maintaining a highly motivated and well-trained staff.

In addition, for this performance year the Audit office added "workload targets" as a new critical element in individual performance plans to enable auditors to meet the workload targets of the OIG Annual Performance Plan, including ensuring individual audits are completed within one year of the start date.

2. Improve communication and collaboration within OIG.

- *Facilitate information exchange and referrals among the Audit, Investigation, and Administrative units.*
- *Share information about audit, investigative, and administrative activities at all-staff meetings.*
- *Strengthen Investigations/Audit/Administrative teams performing OIG/NSF liaison duties.*

- *Conduct periodic meetings between audit and investigation managers to discuss cross-cutting issues, mutual concerns, and cooperative efforts.*
- *Use office-wide committees for completion of various OIG projects and activities.*
- *Conduct periodic informational meetings for administrative staff from each OIG unit.*
- *Ensure staff participation in the development and implementation of the annual OIG Performance Plan.*

Information exchange among the different units that comprise the OIG continues to be open and effective. All units have contributed to improved communication and collaboration within OIG through participation in formal and informal meetings, activities, and training events. Audit and Investigations staff meet regularly to discuss issues of mutual concern and to monitor matters that have been referred between the offices. Many referrals are explored during these meetings, and while some are found to lack substance, action is taken on any deemed to be significant. In addition, a number of brainstorming sessions between Audit and Investigations staff have been convened to generate ideas for proactive reviews, investigative priorities, and audit planning. The Administrative Manager also convened periodic meetings of administrative staff members to share information and ideas, develop solutions to common problems, and keep everyone current on changes in procedures and requirements.

During the performance period, an auditor, investigator, other OIG staff member, or a team of employees, made presentations at virtually all of the office's monthly staff meetings to share information about their work. Surveys indicate that the presentations were well received and considered professionally valuable. There was strong participation in the OIG liaison program, in which staff members from different OIG units are paired to establish an ongoing relationship with their designated NSF directorate, division, or office. Staff members were also active on office-wide committees set up to handle everything from planning the annual office retreat to preparing an analysis of the employee survey. In addition, staff throughout the office contributed to the development of the annual OIG Performance Plan.

3. Ensure effective external communications and consultation with our stakeholders.

- *Produce timely external reports on OIG results and issues.*
- *Provide testimony and other requested information to congressional committees.*
- *Provide briefings to the NSB, Congress, OMB, NSF, and others regarding OIG plans, priorities, and progress.*

- *Prepare timely OIG budget requests.*
- *Issue two OIG Newsletters by email.*
- *Update NSF leadership regularly on OIG activities and concern.*
- *Participate in NSF committees and task forces, as appropriate.*
- *Collaborate with federal and international agencies to advance common audit, investigative, and management goals.*
- *Provide leadership and active participation in the IG community.*
- *Track and coordinate GAO audits of NSF programs.*
- *Develop guidance for the OIG/NSF liaison program.*
- *Conduct active outreach to NSF and the research community.*
- *Ensure that most liaison teams include representatives from more than one OIG unit.*
- *Improve presentation and content of OIG website.*
- *Track usage of OIG website.*
- *Ensure that FOIA/PA requests are processed in a timely manner.*

During the past year, OIG prepared all reports for which it was responsible, including two Semiannual Reports to Congress, NSF's Financial Statement Audit Report, an OIG Performance Report, and a Management Challenges Letter, all of which were issued within the timelines prescribed either by law or by specified due dates. We also issued our 2008 budget submission according to OMB and Congressional requirements. Further, OIG provided suggestions for new legislation at the request of a Congressional committee. In addition, OIG leadership met with Congressional and OMB staff to discuss OIG operations and priorities.

Our staff and its financial statement audit contractor gave briefings at most meetings of the Audit and Oversight Committee of the National Science Board, including the status of NSF's financial statement audit and the effectiveness of the corrective actions taken by the agency in response to previous financial audits, OIG's proposed budget submission, the annual audit plan, and significant investigations and audit reports. We released two electronic newsletters to inform NSF stakeholders of OIG's significant audits and investigations between the issuances of our Semiannual Reports to Congress. In addition, the IG and Deputy IG conducted briefings for the NSF Director and Deputy Director at regular intervals to apprise them of OIG's activities and discuss opportunities to improve agency operations.

OIG staff actively participated in NSF committees. For example, Audit staff members were active in the Audit Coordinating Committee, which resolves coordination issues associated with the financial statement audit. The Se-

nior Policy and Operations Advisor serves as an executive secretary to the Audit and Oversight Committee of the National Science Board. The Deputy IG participated in quarterly Division Director retreats and served as the OIG liaison for the agency's Office of Equal Opportunity. During the past year we continued to advance our goal of enhancing communications with agency staff by presenting at NSF-organized events. We spoke at the conflict-of-interest briefings conducted by the NSF ethics official approximately twice a month and gave presentations at each of the NSF Program Manager's Seminars, which provide new NSF program managers with detailed information about the Foundation and its activities. OIG also reached out to the larger research community by attending approximately 50 separate events, mostly held by universities across the country, to make presentations or participate in a conference or forum.

Deputy AIG William Harrison congratulates Sherrye McGregor on her award from the Virginia Society of Research Administrators for her keynote address to their fall meeting.



As institutions around the world increasingly collaborate to conduct scientific research, it is important that those who fund and perform research have an understanding of the rules, regulations, best practices, and research ethics that exist in other countries. The NSF OIG has been at the forefront of this effort. The IG was designated as the United States representative to the Global Science Forum Expert Group, which was formed to address the need for better understanding of the differences among countries in approaching

research misconduct issues and to develop practical guidance for governments on handling research misconduct and conducting training on ethical issues. The IG also spoke at the International Network of Research Management Societies in Australia, where she called for the development of national and international standards for investigating allegations of research misconduct. These exchanges have helped heighten international awareness of the need for common definitions and rules in the area of research misconduct. NSF OIG continued to co-host the Accountability in Science Research Funding workshop, which this year convened in The Hague with representatives of 11 countries in attendance. Twenty-two representatives of the Chinese Ministry of Supervision visited our offices in September to meet with Dr. Boesz and OIG staff. We also participated in a planning meeting for the 2007 International Conference on Research Integrity in Portugal. Attended by 20 representatives from a number of countries and organizations, this conference is designed to facilitate discussion of coordination on research misconduct and ways to improve the education of researchers in ethical behavior.

Our office continues to organize and actively participate in committees, projects, and events supported by the IG community. The President's Council of Integrity and Efficiency and the Executive Council of Integrity and Efficiency (PCIE/ECIE) each year issue a report to the President on the most significant activities and accomplishments of the federal IG community. This

year's report was prepared jointly by the Department of Agriculture and the National Science Foundation OIGs. Our investigators participated in the Procurement Fraud Working Group established by the U.S. Attorney for the Eastern District of Virginia as well as the newly established National Procurement Fraud Task Force at the Department of Justice. Under the auspices of the task force, we have taken a leadership role in two areas of grant fraud: a review of government-wide certification processes; and various OIG outreach efforts to program officers and grant recipients. We organized and hosted a successful Grant Fraud Workshop, which was attended by dozens of OIG professionals from most grant-making agencies. OIG staff also assisted the IG Academy and the Federal Law Enforcement Training Center by participating in curriculum review/course development committees and serving as advisors for the Basic Non-Criminal Investigator Course. We continued to coordinate the ECIE investigative peer review process and served as the chair for the PCIE/ECIE Peer Review Revision team. The Deputy IG served on the PCIE/ECIE award evaluation committee, and the IG was active in the PCIE/ECIE Executive Committee, the Investigations Committee, and the Inspection and Evaluation Committee.

OIG auditors provided leadership to interagency groups established to advance common audit goals. For example, we chaired the Financial Statement Committee of the Federal Audit Executive Council, helped the PCIE and the Government Accountability Office revise the Financial Audit Manual, and actively participated in the government-wide Financial Statement Audit Roundtable. OIG auditors have met monthly during this reporting period with auditors from other federal OIGs in the Financial Statement Audit Network to discuss proposed accounting standards and requirements for federal financial statement audits. We also commented on proposed changes to the Government Auditing Standards, 2007 Revisions (the "Yellow Book"), and the Federal Accounting Standards Advisory Board's proposed statement of concepts on Definition and Recognition of Elements of Accrual-Basis Financial Statements. Additionally, we contributed to standardizing the government-wide statement of work used to procure the financial statement audit contractors, helped update the Audit Monitoring Guide that assists OIGs in monitoring the quality of the financial audit performed by the external auditors, and tracked GAO's audit work at NSF.

OIG's liaison program continued to achieve its goals of establishing effective working relationships and communications with the individual directorates and offices within NSF. OIG liaison teams, usually composed of one auditor and one investigator, initiated approximately 30 liaison events this year. We published an internal guide for our liaison program to ensure it continues to operate in accord with the IG's original vision. We also made a number of improvements to the OIG website to facilitate communication with our stakeholders, including the uploading of our most recent presentations and publications. Over 23,000 visitors logged onto our website during this reporting period, an indication of the success of our outreach efforts. One-hundred percent of the FOIA requests we received were processed within the specified timeframes.